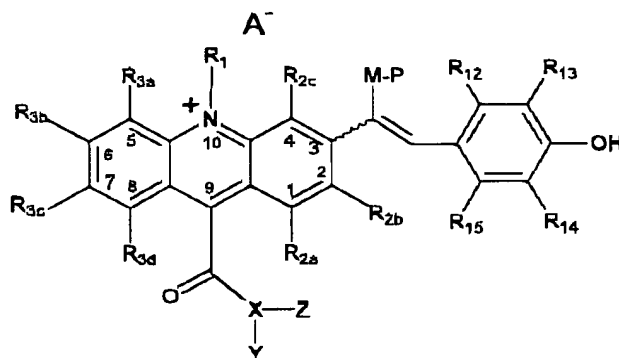


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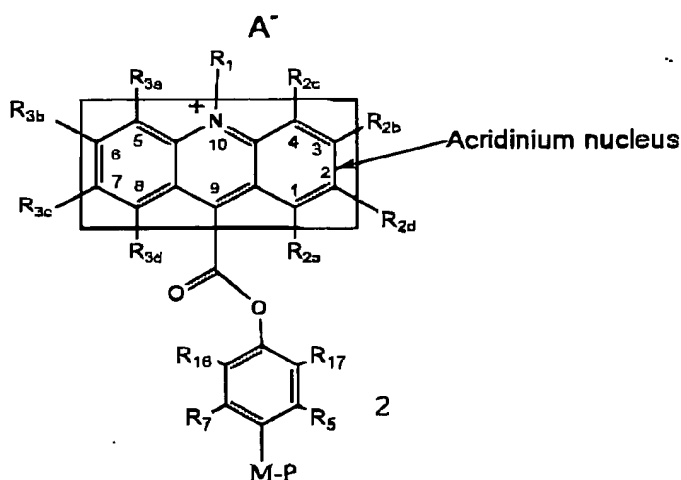
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23. The chemiluminescent substrate of claim 4 wherein said chemiluminescent moiety Lumi is an acridinium compound having the following structure:



wherein,  $R_1$ ,  $R_{2a-c}$ ,  $R_{3a-d}$ ,  $A^-$ ,  $M$ ,  $P$ ,  $X$ ,  $Y$ , and  $Z$  are as defined in claim 4;  $R_{12}$ ,  $R_{13}$ ,  $R_{14}$  and  $R_{15}$  are the same or different and are selected from the group consisting of hydrogen,  $-R$ , hydroxyl, amino, halides, nitro, nitroso, sulfonate, sulfate, phosphonate,  $-CO_2H$ , cyano ( $-CN$ ),  $-SCN$ ,  $-OR$ ,  $-SR$ ,  $-SSR$ ,  $-C(O)R$ , and  $-C(O)NHR$ .

26. The chemiluminescent substrate of claim 4 wherein said chemiluminescent moiety Lumi is an acridinium compound having the following structure:




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wherein,  $R_1$ ,  $R_{2a-c}$ ,  $R_{3a-d}$ ,  $R_5$ ,  $R_7$ ,  $A^-$ ,  $M$ , and  $P$  are as defined in claim 4;

$R_{2d}$  is as defined for  $R_{2a-c}$  and  $R_{3a-d}$ ;

  $R_{16}$  and  $R_{17}$  are the same or different, and are selected from the group consisting of hydrogen, methyl, alkyl with low molecular weight, and halides.

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